own peculiar observations, or of such a nice texture as not easily to admit being expressed in words, especially as artists are not very skilful in that mode of communicating ideas. Unsubstantial, however, as these rules may seem, and difficult as it may be to convey them in writing, they must still be seen and felt in the mind of the artist; and he ought to work from them with as much certainty as if they were embodied, as I may say, upon paper. It is true these refined principles cannot be always made palpable, like the more gross rules of art, neither can the various modifications of dynamical laws, which influence each particle of a cloud of dust or globule of a wave, be recorded in the book of science.

All that science can effect is to systematize the accumulation of experience, *i.e.*, facts, deducing from the multitudinous and complex, simplicity and order, by selecting the invariable from the variable;—the invariable always constituting the grand laws which should first tutor the mind, as these are more palpable, till at last it acquires a scientific sense, which words, particularly words of unpractised writers such as we are, can very feebly suggest. It appears to me that most treatises upon art are wanting in methodical arrangement, and the few precepts they are intended to inculcate are only arrived at with much circumlocution; but the greatest evil in them is that they almost invariably deduce their rules from human precedent, rather than seeking them in nature: thus, through teaching us for ever to look back, we become fixed and immoveable pillars, standing monuments of our folly.

Forward! must be the watchword of the champions of truth and human progress, and to this end let us study nature intimately by principle, and this will shew us, if we be in search of permanent fame, we ought to examine and judge for ourselves. Let us not make the virtue modesty our plea, for under this does omnipresent mediocrity shelter itself. Modesty, indeed, is not so properly virtue as the garb and ornament of virtue, and of existing positive power. Let us study nature in parts and the whole, as if no man ever had observed, or ever should observe, but ourselves. Is it sufficient that a Phidias, a Michael Angelo, a Raphael, or a mediæval artist did thus and thus; they may have been right, but let it be remembered that error wins the, at first, unwilling sense to a loving disposition, through the blandishments and importunities of custom, till truth appearing deformed, is banished as a suitor, and error lastingly wedded.

Had Phidias a Phidias as precedent? or Raphael, a Raphael to tutor him? or the mediæval age, an anterior mediæval to educate it in architecture? The answer is apparent. Yet they had a precedent which they may have attentively studied, and which we may also study, that is—Nature.

Modern has not surpassed, or even rivalled, ancient art; but we may reverse the case in ancient and modern science; as long as science pinned its faith to schools and metaphysical notions, was it unprofitable, till Bacon taught it to commence on its own account to investigate nature. He was indeed thoroughly opposed to antiquity, and was the first to expose the fallacy of a supposed debt of reverence. "The opinion which men entertain of antiquity is a very idle thing," said he, "and almost incongruous to the word; for the old age and length of days of the world should in reality be accounted antiquity, and ought to be attributed to our own times, not to the youth of the world which it enjoyed among the ancients, for that age, though with respect to us it be ancient and greater, yet with regard to the world, it was new and less." He writes, also, "Let none expect any great promotion of the sciences, especially in their effective part, unless natural philosophy be drawn out to particular sciences; and again, unless these particular sciences be brought back again to natural philosophy. From this defect it is that astronomy, optics, music, many mechanic arts, and what seems stranger, even moral and civil philosophy, and logic, rise but little above their foundations, and only skim over the varieties and surfaces of things, viz., because, after these particular sciences are formed and divided off, they are no longer nourished by natural philosophy, which might give them strength and increase; and, therefore, no wonder if the sciences thrive not, when separated from their root."

Those, no doubt, who shall be bold enough to begin art afresh, and construct a science founded on nature, instead of mocking ancient examples, and lay the foundation-stones of a new era, must suffer contumely, as they must unavoidably resemble the infancy or youth of human progress in other epochs. Mankind travels the same road it has often travelled before, as is testified by the frequent correspondence of the footsteps of the present with those of the half obliterated past.

It is a fallacious supposition of many unqualified writers upon art, that art may be resumed at the point where the Greeks or Raphael left it. No doubt, most artists would if they could; the absurdity, however, of such a doctrine appears from a parallel case which suggests itself: for example, who would give a man anxious to study astronomy, the results of Newton or Herschel's computations—assure him they are quite correct, but deny him all information with regard to the steps by which they were attained, and then desire him to carry the science forward?

Yet, this is precisely the condition of the artists—the results of ancient art are before him; but the experience, the science is lost: whether it was ever recorded it is, perhaps, now impossible to say; we know, however, that Greek as well as Italian art had crude beginnings, which were gradually thrown aside in its progression until it reached the culminating point in a Phidias or a Raphael; traditional communication may have answered the purpose of the then present, but through being unrecorded, the science was lost to the future.

It seems a hard doctrine that this journey must be commenced anew, with a prospective distance that is not likely to be attained in one generation.

It behoves every one then to remove with assiduity as many impediments as possible, that those who may be destined to follow, shall travel with greater celerity, overtake, and pass us. Let us exert ourselves in the capacity of humble pioneers of progress—content to bow at the altar of pure truth rather than indulge a morbid craving after popularity.

The general objection which is made to the introduction of philosophy into the regions of taste, is, that it checks and restrains the flight of the imagination, and gives that timidity which an over carefulness not to err or act contrary to reason is likely to produce. It is not so. Fear is neither reason nor philosophy. The true spirit of philosophy by giving knowledge, gives a manly confidence, and substitutes rational firmness in the place of vain presumption; but in philosophy as in every thing else, man must pass through infancy and wayward youth. A man of real taste is always a man of judgment in other respects; and those inventions which either disdain or shrink from reason, are, generally, I fear, more like the dreams of a distempered brain than the exalted enthusiasm of a sound and true genius.

We may now be permitted to refer to M. Comte's law of mental evolution, to shew that all knowledge is progressively developed, and that the mysterious or unscientific always precedes the positive or scientific perception. It may be thus stated:—

Every branch of knowledge passes successively through three stages,—1st, the supernatural or fictitious; 2nd, the metaphysical or abstract; 3rd, the positive or scientific. The first is the necessary point of departure taken by human intelligence; the second is merely a stage of transition from the supernatural to the positive; and the third is the fixed and definite condition in which knowledge is alone capable of progressive development.

In the supernatural stage, the mind seeks after causes; aspires to know the essences of things and their modes of operation. It regards all effects as the production of supernatural agents, whose intervention is the cause of all the apparent anomalies and irregularities. Nature is animated by supernatural beings. Every unusual phenomenon is the sign of the pleasure or displeasure of some being, adored and propitiated as a God. The lowest condition of this stage is that of the savages, viz., fetichism. The highest condition is when one being is substituted for many, as the cause of all phenomena.

In the metaphysical stage, which is only a modification of the former, but which is important as a transitional stage, the supernatural agents give place to abstract forces (personified abstractions), supposed to inhere in the various substances, and capable themselves of engendering phenomena. The highest condition of this stage is when all these forces are brought under one general force, named Nature.

In the positive stage, the mind, convinced of the futility of all inquiry into causes and essences, applies itself to the observation and classification of laws which regulate effects—that is to say, the invariable relations of succession and similitude which all things bear to each other. The highest condition of this stage would be, to be able to represent all phenomena as the various particulars of one general view.

Thus in astronomy we may trace the gradual evolution from Apollo and his chariot to the Pythagorean ideas of numbers, harmonies, and so many other metaphysical abstractions, to the firm basis on which it is now settled, the law of gravitation; so that it is by geometry and dynamics we hope to wrest their secret from the spheres; not by the propitiation of a Sun-God. Thus also in physics, where thunder was the intervention of Jove, and where metaphysics had introduced Nature's "horror of a void," we now seek truth in the regular study of gravitation, electricity, light, &c.

We cannot pursue the illustrations of the law; its history is the history of mankind. Those critics who have spoken of this law as if it were an ingenious *aperçu*, cannot have seen its bearing, nor can they have duly studied Comte's work.

To pretend to judge of such a law by a mere reflection on its statement, without tracing its verification throughout the history of speculation, is as wise as it would be to judge the law of gravitation *à priori*, without waiting to see its application to phenomena. We believe that Comte's law is the fundamental law of mental evolution. It is proved by the experience not of one science only, but of all sciences; not of one nation and one epoch, but of all nations and all epochs. Therefore does the diligent perusal of Comte's work become indispensable to those who would form any opinion on his system. The neglect of this has led some of his critics into ludicrous misstatements. They have made objections which he had early anticipated and refuted. They have denied his facts, because they have not learned that all history confirms these facts. They have mistaken his law for a mere hypothesis. It is now some years since we first read the work; and since that time we have met with nothing but confirmations of its truth.

Although the verification of this law exceeds our limits, we may fitly adduce Comte's arguments in its favour. All are agreed, in these days, that real knowledge must be founded on the observation of facts. Hence contempt of mere theories. But no science could have its origin in simple observation: for if, on the one hand, all positive theories must be founded on observation, so, on the other, it is equally necessary to have some sort of theory before we address ourselves to the task of steady observation. If in contemplating phenomena we do not connect them with some principle, it would not only be impossible for us to combine our isolated observations, and, consequently, to draw any benefit from them, but we should be also unable to retain them, and most frequently the important facts would remain unperceived. We are, consequently, forced to theorize. A theory is necessary to observation, and a correct theory to correct observation.*

W. CAVE THOMAS.

* The remainder next week.

ORNAMENTAL ROOFING TILES.—On the 7th instant a vessel arrived in the river from Antwerp, laden with blue ornamental roofing tiles, consigned to the Architectural Tile Company, the first shipment, as we understand, of this description of tiles into this country. They somewhat resemble slate in point of colour, and are large and handsome. As it will be seen by our advertising columns that the proprietors of the patent are willing to encourage the manufacture by our own tile makers, we commend the tiles to their attention, that they may not be behind our foreign neighbours in enterprise, and that in these days of ornamental building we may be provided with materials of our own manufacture rather than employ our capital abroad.